

Claims

1. A preparation for perfusion of an organ prior to transplantation or storage of the organ comprising:

a soluble derivative of a soluble polypeptide, said derivative comprising two or more heterologous membrane binding elements with low membrane affinity covalently associated with the polypeptide which elements are capable of interacting, independently and with thermodynamic additivity, with components of membranes of the organ exposed to extracellular perfusion fluids; and

a physiologically acceptable flush storage solution.

2. A preparation according to claim 1 wherein the polypeptide has immunoregulatory activity.

3. A preparation according to claim 1 or 2 wherein the polypeptide has complement inhibitor activity.

4. A preparation according to any preceding claim wherein the polypeptide is a CR1 polypeptide fragment.

5. A preparation according to claim 1 wherein the polypeptide has anticoagulant or antithrombotic activity.

6. A preparation according to any preceding claim wherein the derivative is dissolved in the storage solution.

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7. A method for making a preparation according to any of claims 1 to 6 comprising:
expressing DNA encoding the polypeptide portion of the derivative in a recombinant host cell;
post-translationally modifying the polypeptide to chemically introduce the membrane binding elements to form the derivative;
recovering the derivative; and
mixing the derivative with the flush storage solution.

8. A method according to claim 7 further comprising: preparing a replicable expression vector capable, in the recombinant host cell, of expressing the DNA encoding the polypeptide;
transforming the recombinant host cell with the vector; and
culturing the transformed host cell under conditions permitting expression of the DNA polymer to produce the polypeptide.

9. A method for preparing an organ prior to transplantation or storage of the organ comprising:
making a preparation according to any of claims 1 to 6; and
perfusing the organ with the preparation..

10. A method of prevention, treatment or amelioration of a disease or disorder associated with inflammation, inappropriate complement activation, or inappropriate activation of coagulant or thrombotic processes of an organ prior to, during or after transplantation or storage of the organ comprising:
making a preparation according to any of claims 1 to 6; and
perfusing the organ with the preparation.

11. A method of prevention, treatment or amelioration of a disease or disorder associated with inflammation, inappropriate complement activation, or inappropriate activation of coagulant or thrombotic processes prior to, during or after transplantation of an organ comprising:

preparing an organ according to claim 9; and

transplanting the perfused organ into an individual requiring a transplant of that organ.

12. Use of a preparation according to any of claims 1 to 6 in the prevention, treatment or amelioration of a disease or disorder associated with inflammation, inappropriate complement activation or inappropriate activation of coagulant or thrombotic processes prior to, during or after transplantation or storage of an organ.

13. Use of a preparation according to any of claims 1 to 6 in a method according to any of claims 9 to 11.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100